

Lab ID#: 130
Receipt Date: Jun 16, 2018
Test Date: Jun 20, 2018

Report:

Report Date: Jun 22, 2018

DUT INFORMATION

Brand	SilverStone
Manufacturer (OEM)	FSP
Series	SFX
Model Number	SX550
Serial Number	S6101000173
DUT Notes	Retested on 10/16/2017

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	8-4
Rated Frequency (Hz)	50-60
Rated Power (W)	550
Type	SFX
Cooling	80mm Sleeve Bearing Fan (MGA8012YS-A15)
Semi-Passive Operation	X
Cable Design	Fixed cables

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	21	22	45	2.5	0.3
	Watts	120		540	12.5	3.6
Total Max. Power (W)		550				

CABLES AND CONNECTORS

Captive Cables

Description	Cable Count	Connector Count (Total)	Gauge
ATX connector 20+4 pin (310mm)	1	1	20AWG
4+4 pin EPS12V (420mm)	1	1	18AWG
6+2 pin PCIe (420mm+155mm)	1	2	18AWG
SATA (315mm+200mm+100mm)	1	3	20AWG
4 pin Molex (315mm+200mm) / FDD (+200mm)	1	2 / 1	20-22AWG

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Primary Side	
Transient Filter	4x Y caps, 3x X caps, 2x CM chokes, 1x MOV
Inrush Protection	NTC Thermistor & Relay
Bridge Rectifier(s)	2x GBU10V06 (600V, 2.9A @ 100°C - without heatsink)
APFC MOSFETS	2x Infineon IPA60R125CP (650V, 16A @ 100°C, 0.125 Ohm)
APFC Boost Diode	1x STMicroelectronics STTH8R06FP (600V, 8A @ 85°C)
Hold-up Cap(s)	2x Nippon Chemi-Con (420V, 150uF each, 2000h @ 105°C, KMG)
Main Switcher	1x Infineon SPA17N80C3 (800V, 11A @ 100°C, 0.29 ohm)
Reset Switch	Fairchild FQPF3N80C (800V, 1.9A @ 100°C, 4.8 ohm)
APFC/Switching Controller	FSP 6600 IC
Topology	Primary side: Active Clamp Reset Forward Secondary side: Synchronous Rectification & DC-DC converters
Secondary Side	
+12V MOSFETS	2x Texas Instruments CSD19506KCS (80V, 193A @ 100°C, 2.2 mOhm)
5V & 3.3V	DC-DC Converters: 4x Infineon BSC030N03LS G (30V, 77A @ 100°C, 3 mOhm) PWM Controller: ANPEC APW7159C
Filtering Capacitors	Electrolytics: Nippon Chemi-Con (105°C, KZE, KZH) Polymers: Teapo
Supervisor IC	FSP6601
Fan Model	Protechnic Electric MGA8012YS-A15 (80mm, 12V, 0.28A, Sleeve Bearing)
5VSB Circuit	
Rectifier	1x A-Power AP03N70I-H FET (700V, 2.5A, 4.4 Ohm)

RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

115V

Average Efficiency	87.847%
Efficiency With 10W (≤500W) or 2% (>500W)	0.000
Average Efficiency 5VSB	77.442%
Standby Power Consumption (W)	0.1206870
Average PF	0.992
Avg Noise Output	29.14 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A-

TEST EQUIPMENT

Electronic Loads	Chroma 6314A x2 63123A x6 63102A 63101A	Chroma 63601-5 x2 Chroma 63600-2 63640-80-80 x10 63610-80-20
AC Sources	Chroma 6530, Chroma 61604	
Power Analyzers	N4L PPA1530, N4L PPA5530	
Oscilloscopes	Picoscope 4444 & 3424, Keysight DSOX3024A, Rigol DS2072A	
Voltmeter	Keithley 2015 THD 6.5 Digit	
Sound Analyzer	Brüel & Kjær 2250-L G4	
Microphone	Brüel & Kjær Type 4189	
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2	

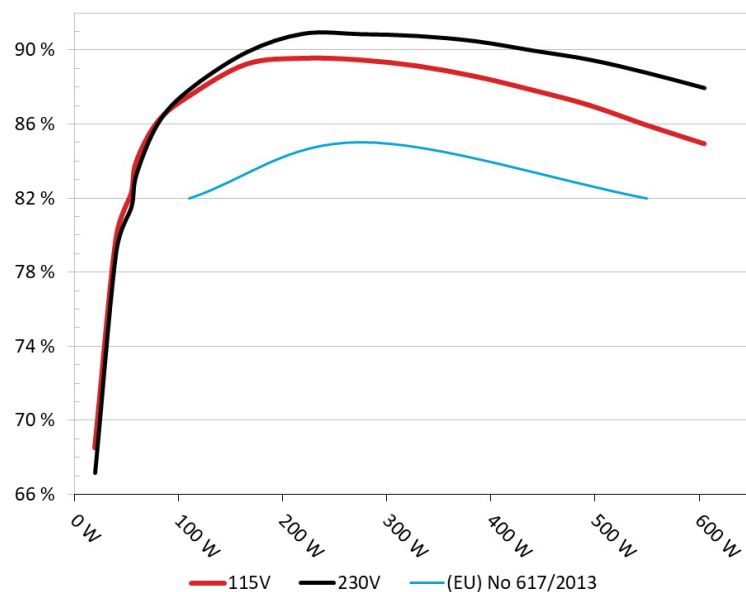
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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: SilverStone SST-SX550
Ambient: 37°C - 47°C (98.6°F - 116.6°F)

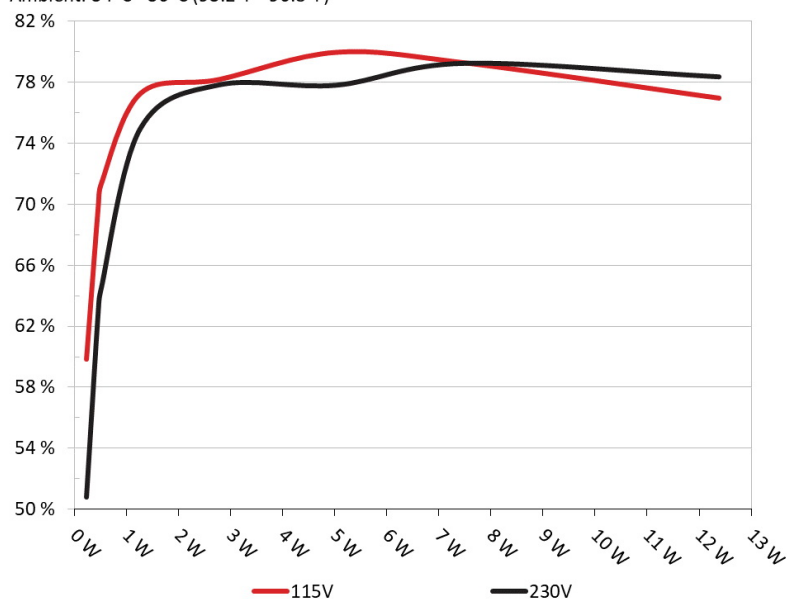


INFO

The PSU's efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB EFFICIENCY

5VSB Efficiency: SilverStone SST-SX550
Ambient: 34°C - 36°C (93.2°F - 96.8°F)



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	59.843%	0.035
	5.063V	0.381		115.39V
2	0.090A	0.456	69.939%	0.059
	5.063V	0.652		115.39V
3	0.550A	2.775	78.191%	0.256
	5.044V	3.549		115.38V
4	1.000A	5.024	79.975%	0.351
	5.024V	6.282		115.38V
5	1.500A	7.501	79.283%	0.409
	5.000V	9.461		115.37V
6	2.499A	12.380	76.971%	0.463
	4.953V	16.084		115.36V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

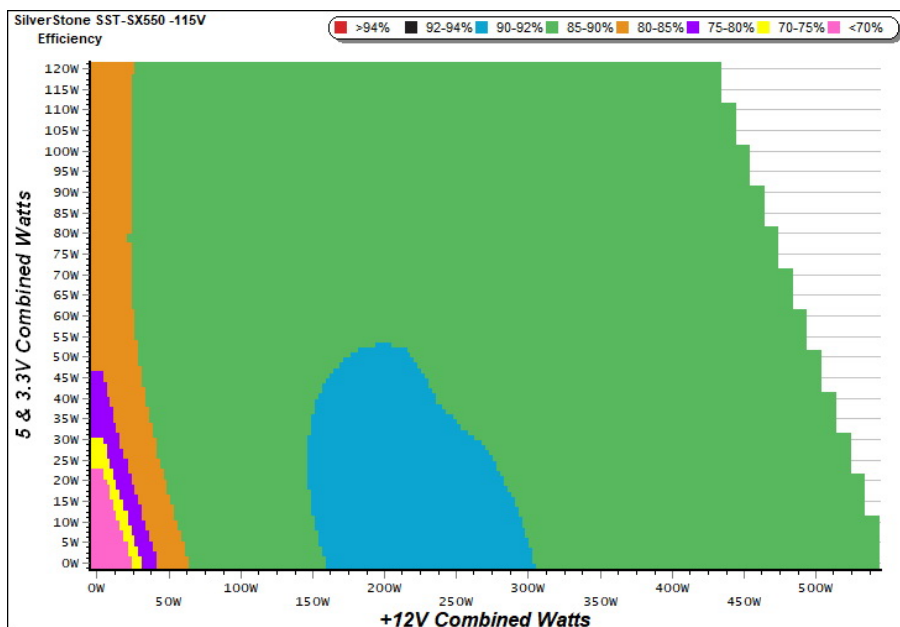
Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.228	50.780%	0.015
	5.063V	0.449		230.97V
2	0.090A	0.456	63.071%	0.024
	5.063V	0.723		230.79V
3	0.550A	2.775	77.840%	0.111
	5.044V	3.565		230.96V
4	1.000A	5.024	77.819%	0.184
	5.023V	6.456		230.96V
5	1.500A	7.499	79.254%	0.242
	4.999V	9.462		230.96V
6	2.500A	12.379	78.368%	0.320
	4.952V	15.796		230.95V

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115V

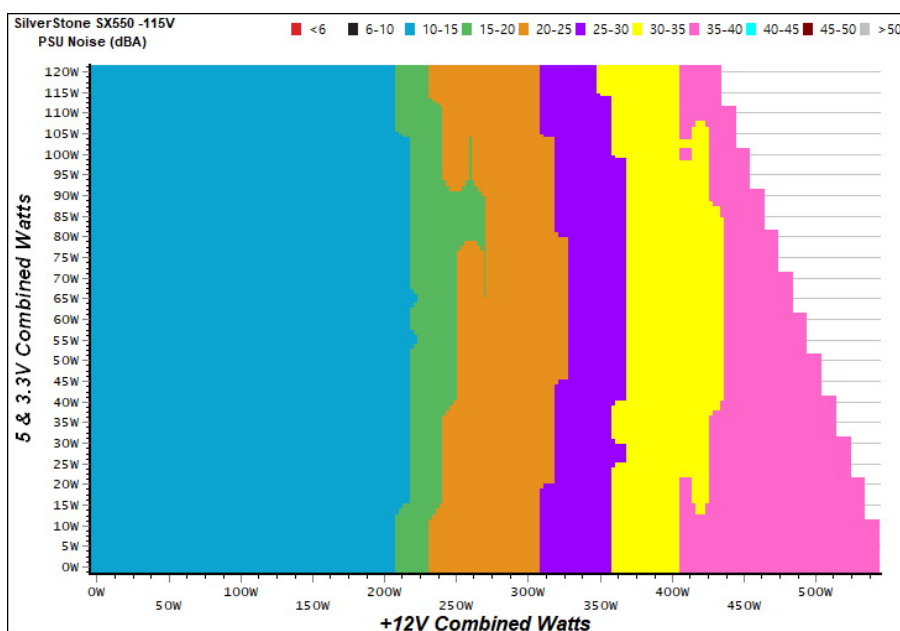
EFFICIENCY GRAPH 115V



INFO

This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

NOISE GRAPH 115V



INFO

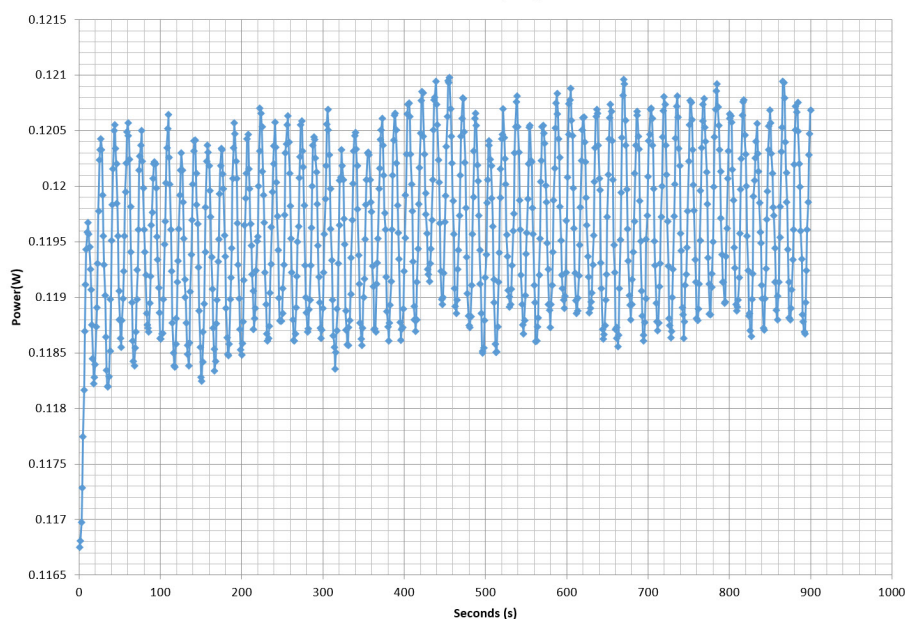
The PSU's noise in its entire operational range and under 30-32 °C (+2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - S6101000173 - 10/10/2017 - 15:27



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V

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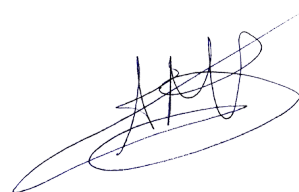


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Power specifications label

CERTIFICATIONS 115V

Aris Mpitsiopoulos
Lab Director

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